

# REPLACEMENT PARTS FOR HIGH-EFFICIENCY, LOW-STATIC UNIT HEATERS

## MODEL UEAS



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## IMPORTANT

1. Always include complete model and serial number so that any specification change can be considered for parts replacement. It can save time and expense.
2. In keeping with our policy of continuous product improvement, we reserve the right to alter any information shown here. Specifications are subject to change without notice.
3. We reserve the right to substitute functional replacements.
4. Order by Part Number (PN) not by option designation.

## REFERENCES

Related Technical Manuals Available from Factory Distributor		
Type	Form	PN
Installation/operation/maintenance	I-UEAS	221232
Ignition system and gas valve replacement parts	D300522 P-VALVES	263995

## RATING PLATE

### SAMPLE RATING PLATE AND KEY

MERCER, PA. USA 16137

MADE IN MEXICO

**SEPARATED COMBUSTION SYSTEM UNIT HEATER**

**CATEGORY IV**

ANSI Z83.8 CSA 2.6 UNIT HEATER

MODEL [   B   ] [   C   ]

SERIAL NO.

[   D   ] VOLTS [   D   ] PH [   D   ] HZ MAXIMUM TOTAL INPUT [   D   ] AMPS

TYPE OF GAS: [   E   ]

FOR USE AT 0-2000 FEET, 0-610 METERS OF ALTITUDE.

ORIFICE SIZE [   F   ] DRILL

SEA LEVEL

NORMAL INPUT [   J   ] BTU/HR

THERMAL OUTPUT CAPACITY [   L   ] BTU/HR

MINIMUM INPUT [   M   ] BTU/HR

NORMAL MANIFOLD PRESSURE [   G   ] IN.W.C.

MIN. PERMISSIBLE GAS SUPPLY PRESSURE FOR PURPOSE OF INPUT ADJUSTMENT. [   H   ] IN.W.C.

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CLEARANCES TO COMBUSTIBLE CONSTRUCTION: TOP-4", FLUE CONNECTION-0", CONTROL SIDE-18", OPP. SIDE-2", BOTTOM-1", FRONT-36"

FOR ALTERNATE INSTALLATIONS USE THE LATEST EDITIONS OF THE APPROPRIATE STANDARD LISTED BELOW:

FOR AIRCRAFT HANGARS USE STANDARD ANSI/NFPA 409

FOR PARKING STRUCTURES USE STANDARD ANSI/NFPA 88A

FOR REPAIR GARAGES USE STANDARD ANSI/NFPA 88B

THIS UNIT IS NOT FOR USE WITH DUCTS.

THIS UNIT IS NOT FOR USE WITH FILTERS.

CONSTRUCTION WALL THICKNESS FOR PURPOSE OF VENTING: 1" MIN., 48" MAX.

In the event the vent temperature limit switch causes the heater to shut off. Determine and correct the cause. Failure to do so could result in personal injury or death. To reset, depress the button on the sensor located on the side of the venter housing.

- B** = Model number
- C** = Date of manufacture (month and year)
- D** = Volts/phase/Hertz/input amps
- E** = Fuel type (natural gas or propane)
- F** = Orifice size
- G** = Normal manifold pressure (IN WC)
- H** = Minimum gas supply pressure (IN WC)
- J** = Normal BTUh input (sea level)
- L** = Thermal output BTUh (sea level)
- M** = Minimum BTUh input (sea level)

## SERIAL NUMBERS

Serial number format changed in June of 2015. Use the following information to decode system serial numbers:

### DECODING A SYSTEM SERIAL NUMBER FOR ALL MODELS *BEFORE* JUNE 2015

**Serial No. Sample:**            **BLK 79 6E N 00000**  
**Elements Key No.:**            **1 | 2 | 3 | 4 | 5**

**Key:**

- 1 = Date code (refer to [Table 1](#))
- 2 = Type of ignition system
- 3 = Type of gas valve
- 4 = Gas (N = natural; L = propane)
- 5 = Consecutive number

**Prefix Key:**

E = E3 (409) stainless steel heat exchanger

### DECODING A SYSTEM SERIAL NUMBER FOR ALL MODELS *AFTER* MAY 2015

**Serial No. Sample:**            **BOG 3060 00000**  
**Elements Key No.:**            **1 | 2 | 3**

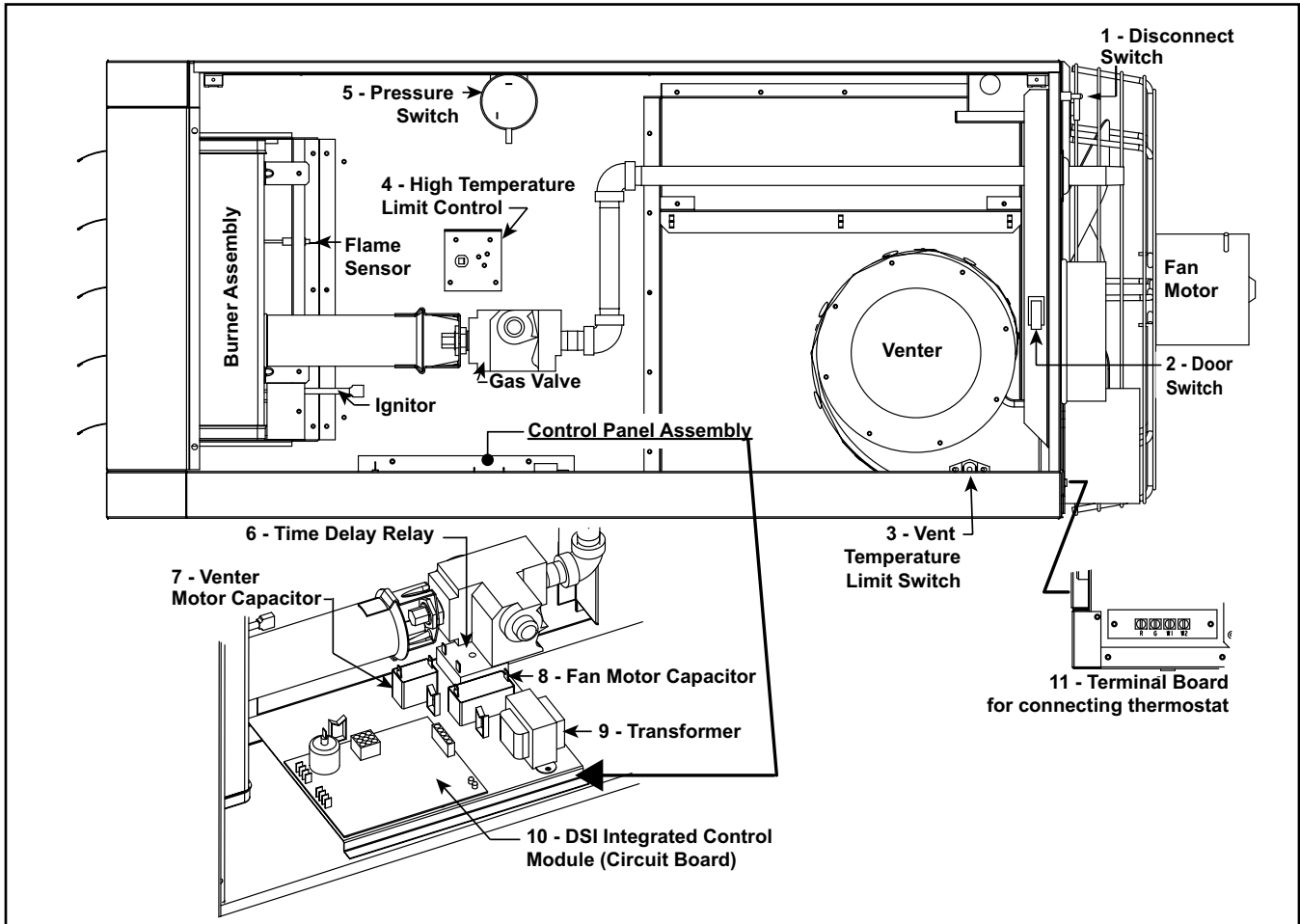
**Key:**

- 1 = Date code (refer to [Table 1](#))
- 2 = Plant of manufacture (3060 = Mercer; 3062 = Monterrey)
- 3 = Consecutive number

**Table 1. Serial Number Date Codes (Month and Year)**

Year	Month											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2007	BGA	BGB	BGC	BGD	BGE	BGF	BGG	BGH	BGI	BGJ	BGK	BGL
2008	BHA	BHB	BHC	BHD	BHE	BHF	BHG	BHH	BHI	BHJ	BHK	BHL
2009	BIA	BIB	BIC	BID	BIE	BIF	BIG	BIH	BII	BIJ	BIK	BIL
2010	BJA	BJB	BJC	BJD	BJE	BJF	BJG	BJH	BJI	BJJ	BJK	BJL
2011	BKA	BKB	BKC	BKD	BKE	BKF	BKG	BKH	BKI	BKJ	BKK	BKL
2012	BLA	BLB	BLC	BLD	BLE	BLF	BLG	BLH	BLI	BLJ	BLK	BLL
2013	BMA	BMB	BMC	BMD	BME	BMF	BMG	BMH	BMI	BMJ	BMK	BML
2014	BNA	BNB	BNC	BND	BNE	BNF	BNG	BNH	BNI	BNJ	BNK	BNL
2015	BOA	BOB	BOC	BOD	BOE	BOF	BOG	BOH	BOI	BOJ	BOK	BOL
2016	BPA	BPB	BPC	BPD	BPE	BPF	BPG	BPH	BPI	BPJ	BPK	BPL
2017	BQA	BQB	BQC	BQD	BQE	BQF	BQG	BQH	BQI	BQJ	BQK	BQL
2018	BRA	BRB	BRC	BRD	BRE	BRF	BRG	BRH	BRI	BRJ	BRK	BRL
2019	BSA	BSB	BSC	BSD	BSE	BSF	BSG	BSH	BSI	BSJ	BSK	BSL
2020	BTA	BTB	BTC	BTD	BTE	BTF	BTG	BTH	BTI	BTJ	BTK	BTL

# ELECTRICAL COMPONENTS











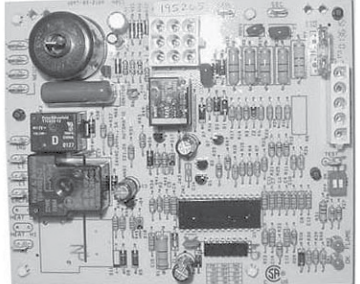
<p><b>Code 1:</b> Disconnect Switch</p> 	<p><b>Code 3:</b> Vent Temperature Limit Switch</p> 	<p><b>Code 6:</b> Time Delay Relay</p> 	<p><b>Codes 7 and 8:</b> Venter Motor Capacitor</p> 	<p><b>Code 9:</b> Transformer</p> 
<p><b>Code 2:</b> Door Switch</p> 	<p><b>Code 4:</b> High Temperature Limit Switch</p> 	<p><b>Code 5:</b> Pressure Switch</p> 	<p><b>Code 10:</b> DSI Control Module, Integrated Circuit Board</p> 	

Figure 1. Electrical Components (Refer to [Table 2](#))

Table 2. Electrical Components				
Code	Component	Unit Size		
		130	180	260
		PN		
1	Disconnect switch	101902		
2	Door switch, Carling #TA22B-TLB-B	217262		
3	Vent temperature limit switch, Thermodisc 36T26 73DD, opens at 145°F, manual reset	221158		
4	High temperature limit switch, 180°	45602	—	45602
	High temperature limit switch, 200°, yellow	—	85449	—
5	Pressure switch, Honeywell, 0–6000 feet altitude, yellow	221251	—	
	Pressure switch, Honeywell, 0–6000 feet altitude, blue	—	221228	—
	Pressure switch, Honeywell, 0–6000 feet altitude, white	—	1013436	
	Pressure Switch , Honeywell, 6001–10,000 feet altitude, green	235954	—	
	Pressure Switch , Honeywell, 6001–10,000 feet altitude, orange	—	235953	
6	Time delay relay, 24VAC, Airotronics*	221388		
7	Venter motor capacitor, 7.5 µF, 400VAC	195643		
8	Fan motor capacitor, 7.5 µF, 400VAC	195643		
9	Transformer, 120/24 volts	175265		
10	DSI control module, integrated circuit board, serial number code 79 (refer to <a href="#">Serial Numbers</a> )	195265		
	DSI control module, integrated circuit board, serial number code A1 (refer to <a href="#">Serial Numbers</a> )	269867		
11	Terminal board	196813		
12	Gasket, terminal board	196327		
13	Wiring harness, 9-pin	234021		
14	Wiring harness, 5-pin	221868		

\*Used on units manufactured *before* DEC 2012. Time delay relay is not used with DSI control module, integrated circuit board (code 10, PN 269867).

## FLUE WRAPPER AND VENTER COMPONENTS

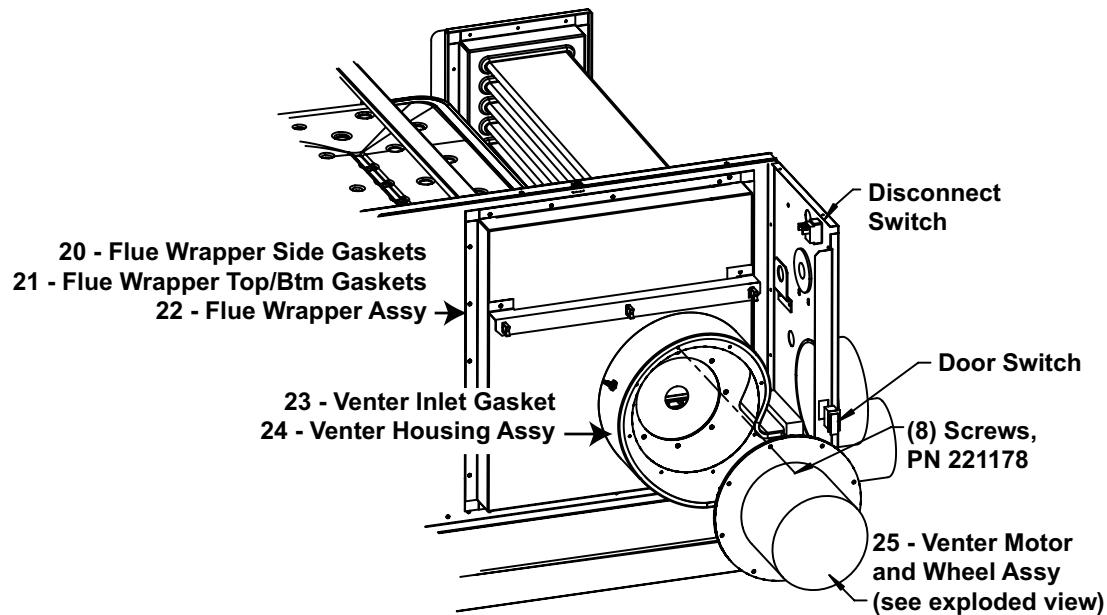
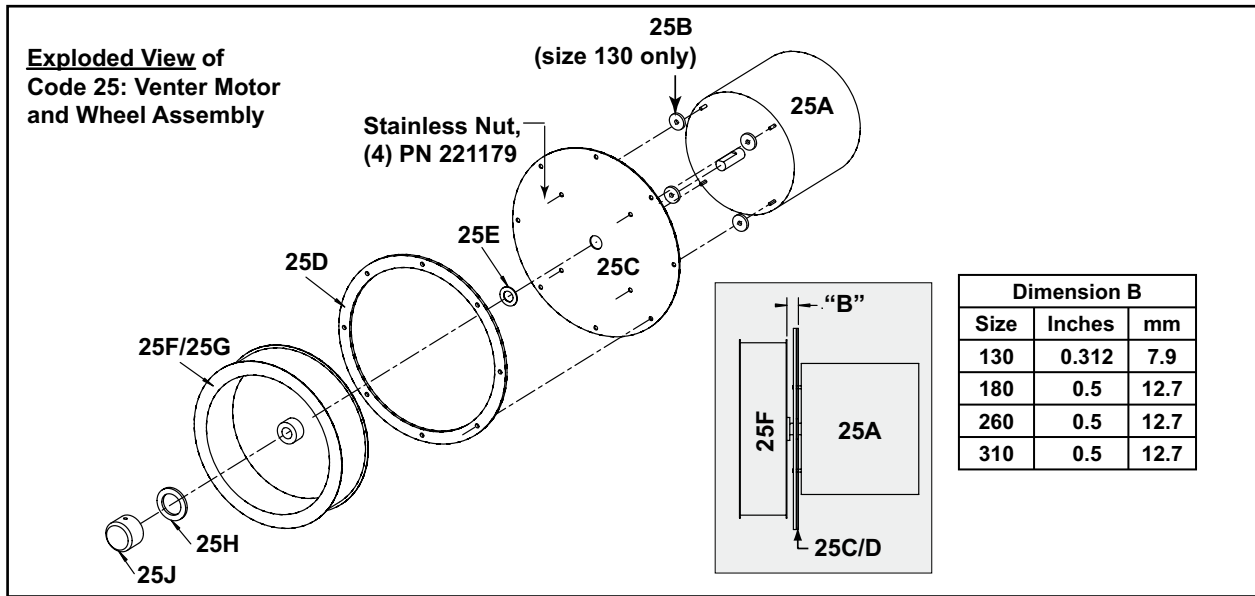


Figure 2. Flue Wrapper and Venter Components (Refer to [Table 3](#))

## FLUE WRAPPER AND VENTER COMPONENTS—CONTINUED

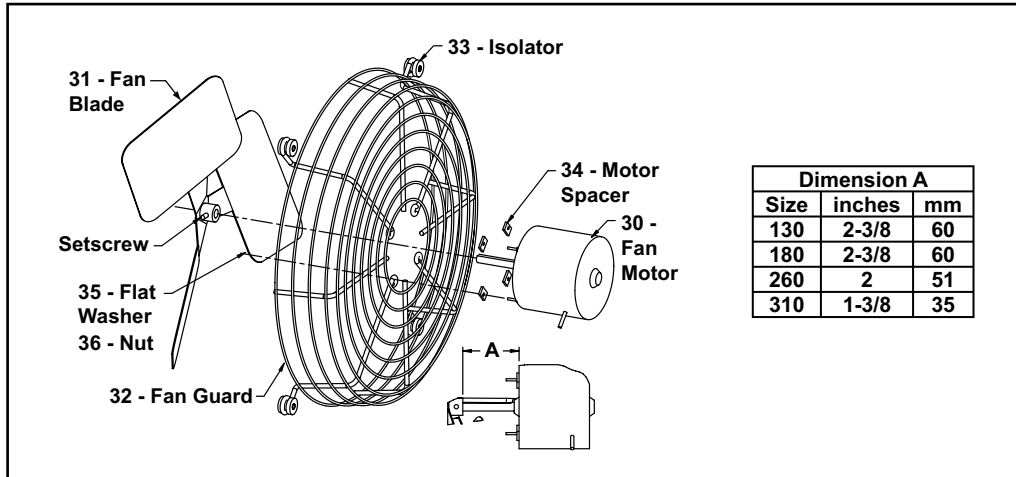


**Figure 3. Venter Motor and Wheel Assembly (Refer to [Table 3](#))**

<b>Table 3. Flue Wrapper and Venter Components</b>					
Code	Component	Unit Size			
		130	180	260	310
		PN*			
20	Flue wrapper side gaskets	221198 (2)		221199 (2)	
21	Flue wrapper top gasket	221200			
	Flue wrapper bottom gasket	221200			
22	Flue wrapper	220823		220824	
23	Venter housing gasket	221164			
24	Venter housing assembly (includes Code 24A and Code 3, vent temperature limit switch)	221520			
24A	Static pressure tap	116043			
25	Venter motor and wheel assembly	222648	221240		
25A	Venter motor, A.O. Smith F48Y67A13	221159			
25B	Flat washer	204323 (4)			
25C	Motor plate	221162			
25D	Motor plate gasket	221163			
25E	Slinger (smooth side must be flush against motor plate)	221861			
25F	Venter wheel	221172			
25G	Venter wheel housing	221173			
25H	Shaft protector gasket	221161			
25J	Shaft protector	221160			
25K	Setscrew	222077			

\*Quantity is one (1) unless otherwise indicated.

## FAN AND MOTOR COMPONENTS



**Figure 4. Fan and Motor Components (Refer to [Table 4](#))**

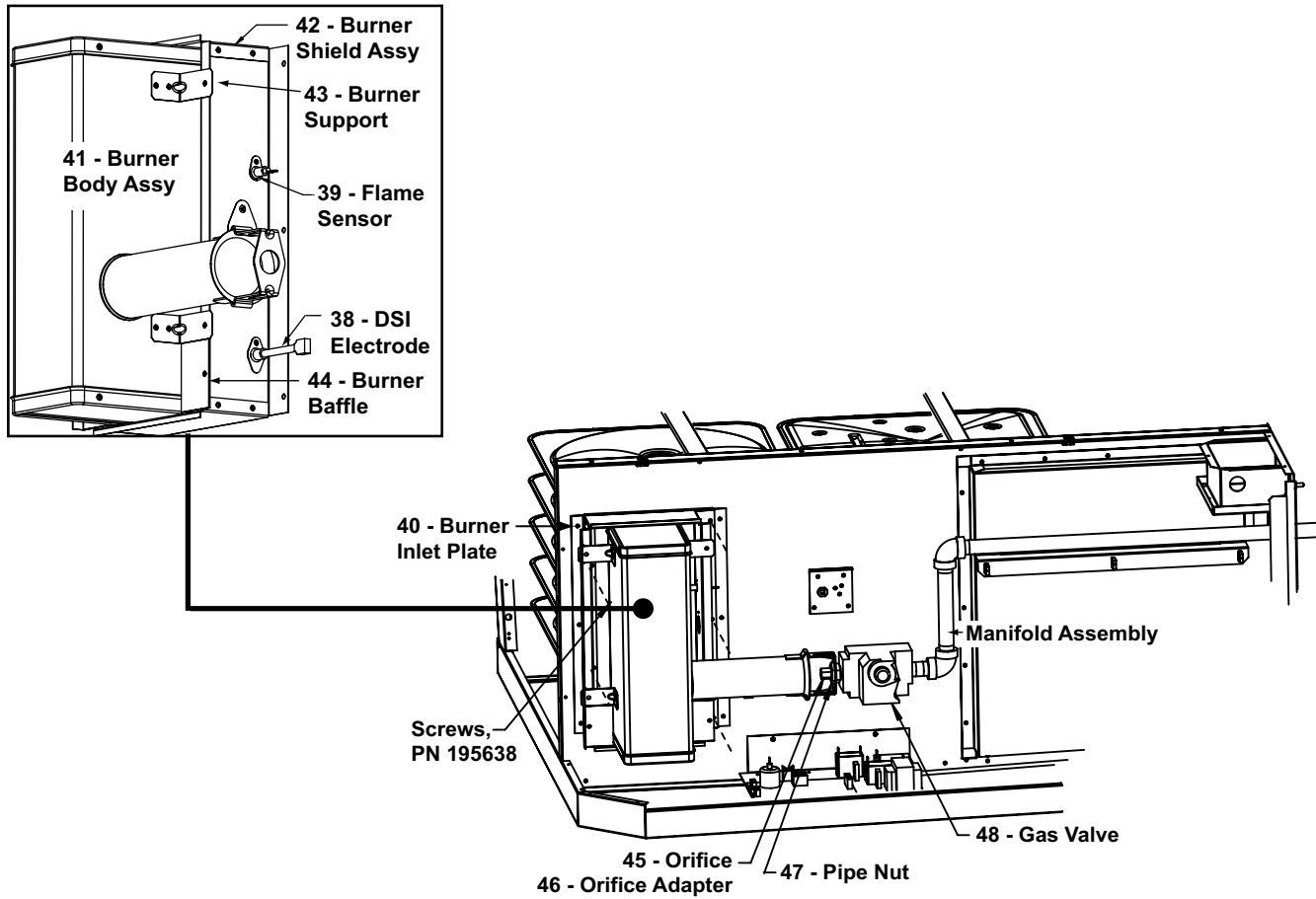
Table 4. Fan and Motor Components					
Code	Component	Unit Size			
		130	180	260	310
		PN*			
30	Fan motor, 115V	271461 (replaces 196246)		196247	
	Fan motor, 115V, AL14 (enclosed)	196824		196825	
31	Fan blade**	195680		195683	209121
32	Fan guard	170084		170086	
33	Isolator	196348 (4)			
34	Motor spacer	—		204321	
35	Flat washer	204323 (4)			
36	Lock nut	271462 (4)		216942 (4)	

\*Quantity is one (1) unless otherwise indicated.  
 \*\*Setscrew torque = 130 inch-pounds (±10 inch-pounds).

## GAS CONVERSION KITS

Table 5. Natural Gas to Propane Conversion Kits				
Valve Code (Refer to <a href="#">Serial Numbers</a> )	Unit Size			
	130	180	260	310
		Kit PN		
Y2	221442	221443	—	
Z7				
Y3	—		221444	221445
Z8				
6E	261647	261648	—	

## BURNER ASSEMBLY COMPONENTS



**Figure 5. Burner Assembly Components (Refer to [Table 6](#))**

<b>Table 6. Burner Assembly Components</b>					
Code	Component	Unit Size			
		130	180	260	310
		PN*			
38	DSI electrode	175272			
39	Flame sensor	195292			
40	Burner inlet plate	221165	221166	221167	221168
41	Burner body assembly	221476	195238	195241	195243
42	Burner shield assembly	195528	195529	195532	195534
43	Burner supports	(4) 196598			
44	Burner baffle	(2) 197238			N/A
45	Natural gas orifice (marking = #3)	211851	—		
	Natural gas orifice (marking = 6.2MM)	—	221263	—	
	Natural gas orifice (marking = 7.6MM)	—	196894		—
	Natural gas orifice (marking = 0)	—		221264	
	Propane orifice (marking = 3.3MM)	120415	—		
	Propane orifice (marking = 25)	—	221265	—	
	Propane orifice (marking = 14)	—		196902	—
	Propane orifice (marking = 8)	—		196903	
46	Orifice adapter	165701		194809	
47	Pipe nut, 1/2-inch	165702			
48	Natural gas valve	260603		196981	

\*Quantity is one (1) unless otherwise indicated.



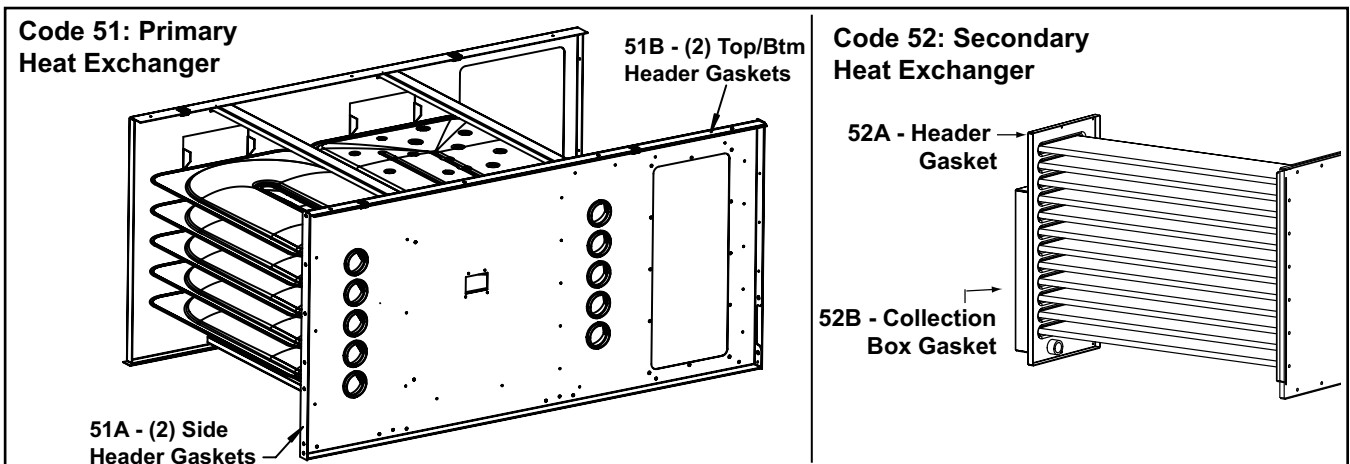
## MANUAL SHUTOFF VALVE



**Figure 6. Manual Shutoff Valve—Same as Option CE1 (Refer to [Table 7](#))**

<b>Table 7. Manual Shutoff Valves</b>				
<b>Component</b>	<b>Option Package</b>			
	15971		15972	
	<b>Unit Size</b>			
	130	180	260	310
<b>PN</b>				
Shutoff valve, 1/2-inch	196910		—	
Shutoff valve, 3/4-inch	—		196911	
Union, 1/2-inch	1224		—	
Union, 3/4-inch	—		1101	

## HEAT EXCHANGER COMPONENTS



**Figure 7. Heat Exchangers (Refer to [Table 8](#))**

<b>Table 8. Heat Exchanger Components</b>					
<b>Code</b>	<b>Component</b>	<b>Unit Size</b>			
		130	180	260	310
<b>PN*</b>					
51	Primary heat exchanger assembly with drain assembly	221318	221319	221320	221321
51A	Top/bottom header gaskets	221201 (2)		221202 (2)	
51B	Side header gaskets	221203 (2)		221204 (2)	
51C	Replacement HTEX drain kit	235368			
52	Secondary heat exchanger assembly	221256	221257	221258	221259
52A	Secondary heat exchanger header gasket	220804		220805	
52B	Collection box gasket	221187			

\*Quantity is one (1) unless otherwise indicated.

## CONDENSATE DRAIN KIT (PN 235368) FOR REPLACEMENT HEAT EXCHANGERS

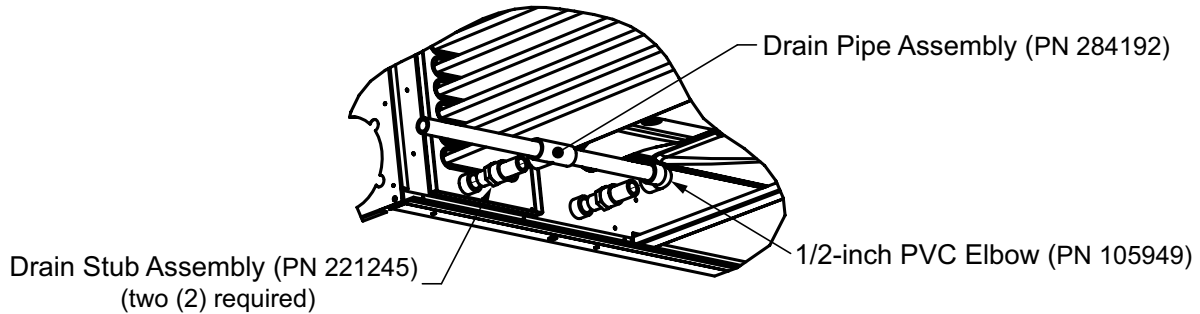


Figure 8. Condensate Drain Kit (Refer to [Table 9](#))

Table 9. Condensate Drain Kit (PN 235368) Components

Component	PN	Quantity
Elbow, 1/2-inch PVC	105949	1
Drain stub assembly	221245	2
Drain pipe assembly	284192	1

### CONDENSATE DRAIN KIT (PN 235368) INSTALLATION

Install the condensate drain kit as follows:

1. Turn off gas and power.
2. Remove old primary heat exchanger.
3. Remove drain assembly from secondary heat exchanger.
4. Install new primary heat exchanger.
5. Thread one drain stub assembly into half coupling on new primary heat exchanger.
6. Thread other drain stub assembly into half coupling on secondary heat exchanger.
7. Install 1/2-inch PVC elbow and drain pipe assembly using PVC cleaner and solvent.
8. Turn on gas and power and check for operation according to installation manual.

### VENT/COMBUSTION AIR COMPONENTS

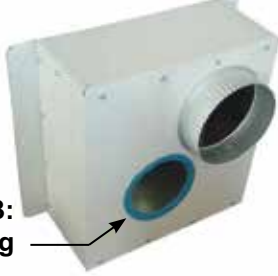

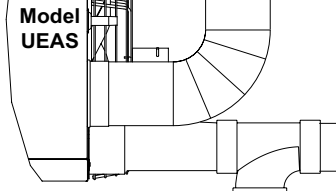




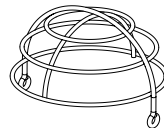
<p><b>Codes 55A and 56A:</b> Concentric Adapter Box</p>  <p><b>Codes 55B and 56B:</b> Silicone Sealing Ring</p> 	<p>Model UEAS</p>  <p><b>Codes 55G and 56G:</b> 4-inch PVC Cap</p>	<p><b>Code 55D: Ring Guard</b></p> 
<p><b>Code 55C: Bird Screen</b></p> 	<p><b>Code 56E: Combustion Air Inlet</b></p> 	<p><b>Code 56F: Rain Collar</b></p> 
<p><b>Code 56C: Bird Guard</b></p> 		

Figure 9. Vent/Combustion Air Components (Refer to [Table 10](#))

Table 10. Vent/Combustion Air Terminal Kits			
Code	Component	PN	Quantity
<b>Code 55: Horizontal Kit (PN 221247, Same as Option CC6)</b>			
55A	Concentric adapter box	221069	1
55B	Sealing ring, silicone	—	1
55C	Bird screen, for exhaust outlet	221089	1
55D	Ring guard, for air inlet	124940	4
55E	Screw, #10-16 × 1/2-inch long, for attaching inlet air guard	37661	4
55F	Spacer, for inlet air guard	221186	4
55G	Condensate drain connection vent cap, 4-inch PVC	221091	1
<b>Code 56: Vertical Kit (PN 221248, Same as Option CC2)</b>			
55A	Concentric adapter box	221069	1
55B	Sealing ring, silicone	—	1
55C	Bird guard	221215	1
55D	Screw, #10 × 1/2-inch long, self-drilling, for bird guard	37661	2
55E	Combustion air inlet	221250	1
55F	Rain collar	221185	1
55G	Condensate drain connection vent cap, 4-inch PVC	221091	1

**NOTE: The following vent/combustion air components are for separated combustion: concentric adapter box (codes 55A and 56A), silicone sealing ring (codes 55B and 56B), 4-inch PVC cap (codes 55G and 56G).**

### LOUVER ASSEMBLY COMPONENTS

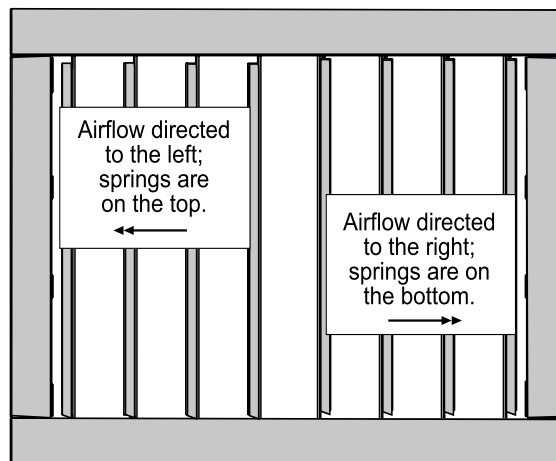
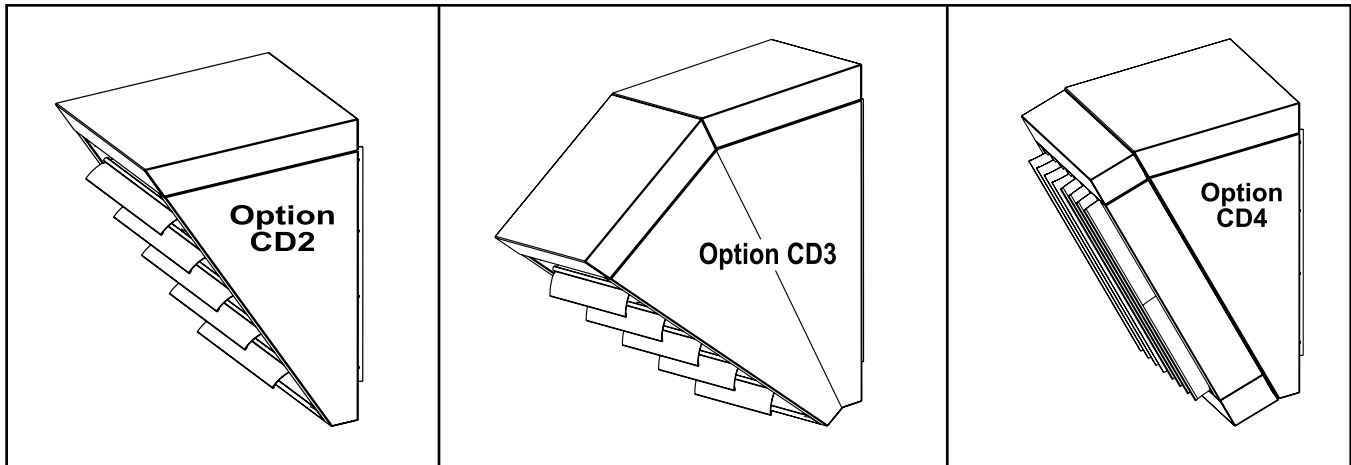


Figure 10. Vertical Louvers—Same as Option CD1 (See Table 11)

Table 11. Louver Assembly Components				
Component	Option Package			
	201199		201201	
	Unit Size			
	130	180	260	310
PN (Quantity)				
Louver frame top and bottom	197189 (2)		197190 (2)	
Louver frame side	197186 (2)		197188 (2)	
Screw, #8-18 × 3/8-inch long, AB point, slotted indented serrated hex washer head	195638 (20)			
Louver	196572 (8)		195315 (8)	
Compression spring	195046 (8)			

## NOZZLE COMPONENTS



**Figure 11. Downturn Nozzles—Same as Option CD2, CD3, or CD4 (Refer to Table 12)**

<b>Table 12. Nozzle Components</b>				
Component	Unit Size			
	130	180	260	310
	PN (Quantity)			
<b>Option CD2 Package PN</b>	<b>201202</b>		<b>201204</b>	
Nozzle section right side	197173 (1)		197175 (1)	
Nozzle section left side	197176 (1)		197178 (1)	
Nozzle section top	197170 (1)		197172 (1)	
Nozzle bracket	201708 (2)		201709 (2)	
Nozzle section bottom	196997 (1)		197179 (1)	
Screw, #8-18 × 3/8-inch long, AB point, slotted indented serrated hex washer head	195638 (16)			
<b>Option CD3 Package PN</b>	<b>201205</b>		<b>201207</b>	
Nozzle section right side	197173 (2)		197175 (2)	
Nozzle section left side	197176 (2)		197178 (2)	
Nozzle section top	197170 (2)		197172 (2)	
Nozzle bracket	201708 (2)		201709 (2)	
Nozzle section bottom	196997 (2)		197179 (2)	
Screw, #8-18 × 3/8-inch long, AB point, slotted indented serrated hex washer head	195638 (30)			
<b>Option CD4 Package PN</b>	<b>201208</b>		<b>201210</b>	
Nozzle section right side	197173 (1)		197175 (1)	
Nozzle section left side	197176 (1)		197178 (1)	
Nozzle section top	197170 (1)		197172 (1)	
Nozzle bracket	201708 (2)		201709 (2)	
Nozzle section bottom	196997 (1)		197179 (1)	
Vertical louver	196572 (8)		195315 (8)	
Compression spring	195046 (8)			
Top louver support	197189 (1)		197190 (1)	
Bottom louver support	197189 (1)		197190 (1)	
Louver frame side	197186 (2)		197188 (2)	
Screw, #8-18 × 3/8-inch long, AB point, slotted indented serrated hex washer head	195638 (28)			

## HANGER KIT COMPONENTS



Figure 12. Hanger Kit—Same as Option CK10 (Refer to [Table 13](#))

Component	Unit Size			
	130	180	260	310
Option CK10 Package PN	98511			
Swivel connector assembly	17627 (4)			
Lockwasher, 3/8-inch	5197 (8)			
Nut, hex, 3/8-inch	1438 (4)			

NOTE: Hanger kit provides four-point suspension.

## THERMOSTAT COMPONENTS

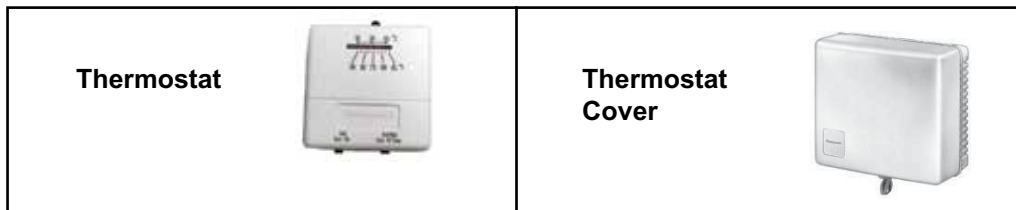


Figure 13. Thermostat and Cover—Same as Options CL1 and CM1 (Refer to [Table 14](#))

Component	Unit Size			
	130	180	260	310
Thermostat, single-stage, 24V, with fan switch (same as option CL1)	255350			
Cover, thermostat, locking, 6 × 5 × 2-1/2 (inside), clear plastic (same as option CM1)	257464			

# CABINET COMPONENTS

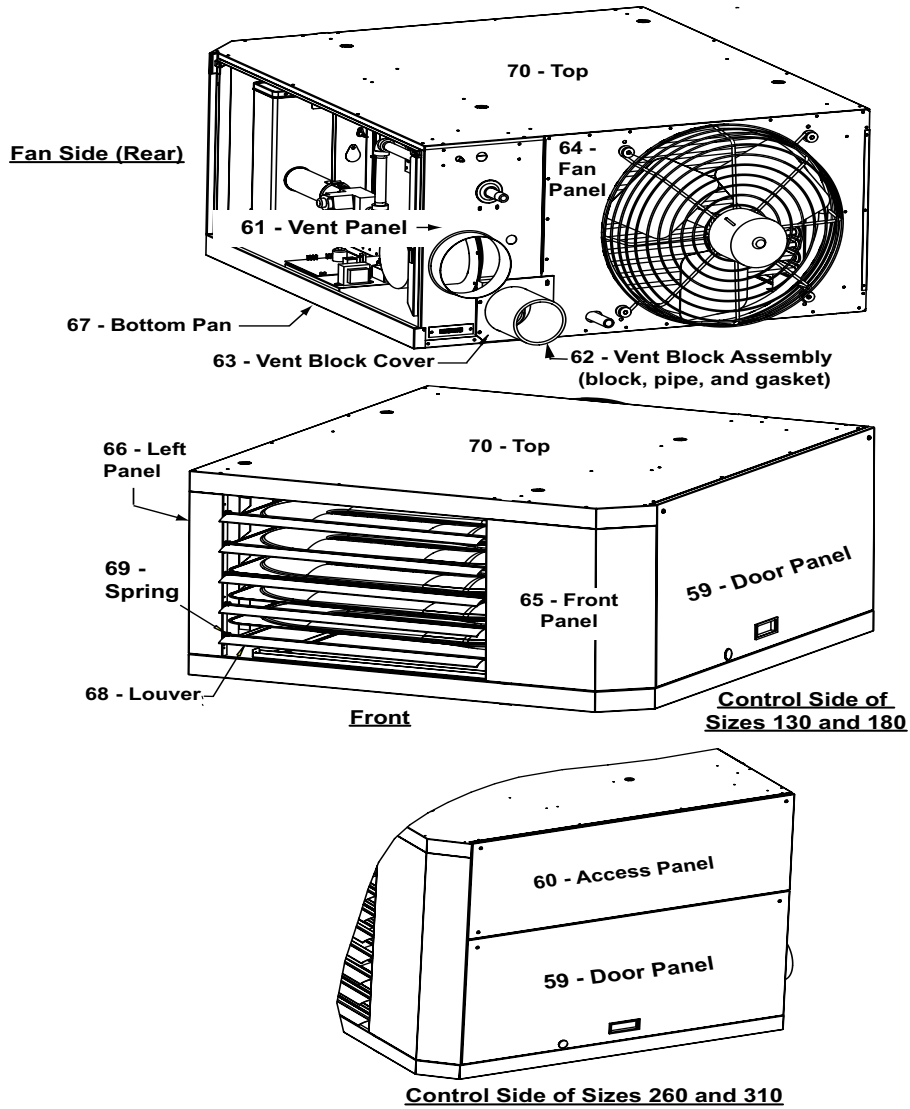


Figure 14. Cabinet Components (Refer to [Table 15](#))

**Table 15. Cabinet Components**

Code	Component	Unit Size			
		130	180	260	310
		PN*			
59	Door assembly	220833		220834	
60	Access panel, above door	—		220822	
61	Vent panel assembly	220825		220826	
62	Vent block assembly		221518		
62A	Vent block gasket, part of code 62		221516		
63	Vent block cover assembly		221519		
64	Fan panel	220759		220760	
65	Front panel	201692		201694	
66	Left panel	220753		220754	
67	Bottom pan	220827		220828	
68	Louver	195578 (5)		195578 (10)	
69	Louver spring	195046 (5)		195046 (10)	
70	Top panel	220755		220756	
71	T-CORE <sup>®</sup> logo		221183		
73	Touch-up paint, cabinet, white, 11-oz spray can		201805		
74	Paint, horizontal louver, maroon, 12-oz spray can		207432		

\*Quantity is one (1) unless otherwise indicated.

